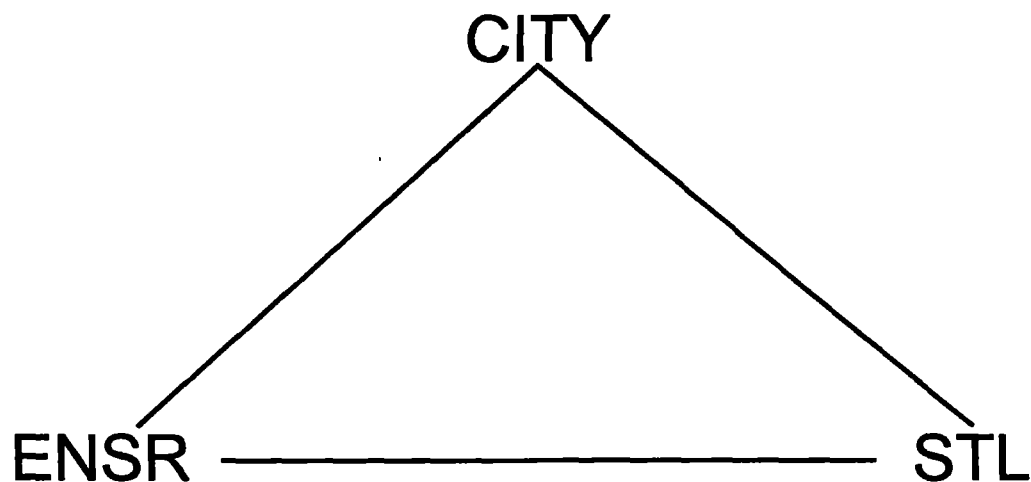




ANNUAL PROGRESS REPORT  
FOR 2000

REILLY TAR & CHEMICAL CORP.  
N.P.L. SITE  
ST. LOUIS PARK, MINNESOTA

SUBMITTED MARCH 15, 2001



March 15, 2001

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**Re: United States of America, et al. vs. Reilly Tar & Chemical  
Corporation, et al.  
File No. Civ. 4-80-469  
Consent Decree – Park K**

Gentlemen:

Enclosed is the 2000 Annual Progress Report submitted pursuant to Park K of the Consent Decree in the above captioned matter. This report is issued by the City in accordance with Section 2(a) of the Reilly/St. Louis Park Agreement (Exhibit B to the Consent Decree).

Any questions regarding this submittal can be directed towards this office.

Sincerely,



William M. Gregg  
Project Leader for the  
City of St. Louis Park

Enclosure

cc: Scott Anderson  
Mike Rardin (w/o enclosures)  
Reilly File

**2000 ANNUAL PROGRESS REPORT  
ON THE  
IMPLEMENTATION OF THE CONSENT DECREE**

**SUBMITTED TO THE**

**REGIONAL ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V**

**EXECUTIVE DIRECTOR  
MINNESOTA POLLUTION CONTROL AGENCY**

**BY**

**THE CITY OF ST. LOUIS PARK, MINNESOTA**

**PURSUANT TO  
CONSENT DECREE - PART K**

**UNITED STATES OF AMERICA, ET AL.**

**VS.**

**REILLY TAR & CHEMICAL CORPORATION, ET AL.**

**UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA  
CIVIL NO. 4-80-469**

**MARCH 15, 2001**

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## **1. INTRODUCTION**

The Consent Decree in United States of America, et al. vs. Reilly Tar & Chemical Corporation, et al. (U.S. District Court, Minnesota, Civil No. 4-80-469) was signed by Judge Magnuson on September 3, 1986, and entered by the Court on the following day. The effective date of the Consent Decree is therefore September 4, 1986 (see Part EE of the Consent Decree).

The Consent Decree requires various actions to be taken by Reilly Industries, Inc. (Reilly), the City of St. Louis Park (City), the United States Environmental Protection Agency (USEPA), the Minnesota Pollution Control Agency (MPCA), and/or the Minnesota Department of Health (MDH). These actions are required by the Consent Decree itself, by the Remedial Action Plan (CD-RAP) (Exhibit A to, and an integral and enforceable part of the Consent Decree, per Part F thereof), or by an Agreement between Reilly and the City (Reilly/City Agreement ) (Exhibit B to, and an integral and enforceable part of the Consent Decree, per Part Q thereof, as to the rights and responsibilities between Reilly and the City).

This Annual Progress Report (Report) submitted in accordance with the requirements of Part K of the Consent Decree describes actions taken to implement the requirements of the Consent Decree from January 1 through December 31, 2000. This Report also describes activities scheduled for calendar year 2001, as required by Part K. Two other annual reports are required and are submitted by March 15 of each year under separate cover. The Annual Monitoring Report presents all chemical analyses and water level measurements for that calendar year that are not presented in other reports. The second annual report is the Annual Performance Report for granular activated carbon treatment system. This report discusses chemical analyses and pumping requirements for SLP10 or SLP15 and for SLP4.

As an aid to the reader in following the progress of the many activities involved, this Report provides separate descriptions of completed and scheduled activities required by the Consent Decree (Report Sections 2.0 and 3.0, respectively) and by the CD-RAP (Report Sections 4.0 and 5.0, respectively). Within each section, areas of activity are discussed in the order in which they are discussed in the Consent Decree and CD-RAP.

## **2. COMPLETED CONSENT DECREE ACTIVITIES**

Part K of the Consent Decree requires that Reilly submit annual progress reports to the USEPA and MPCA by March 15, which describe actions taken to implement the requirements of the Consent Decree during the previous year and describe activities scheduled for the year in which the report is released. The City, on behalf of Reilly, submitted the 1999 Annual Progress Report on March 15, 2000, pursuant to the requirements of Part K, of the Consent Decree.

Part O of the Consent Decree states that Reilly, the City, the USEPA, or the MPCA may change its designated Project Leader and alternate by notifying the other Parties, in writing, of the change. No changes occurred in 2000.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Reilly wrote the USEPA and MPCA on July 7, 1987, to request that the excuse granted to Reilly on October 7, 1986, from meeting certain notification requirements for insurance cancellation be extended to July 1, 1988. The USEPA and MPCA approved this request on September 9, 1987. On March 28, 1991, Reilly submitted certificates of insurance for liability coverage, indicating excess coverage was in place. Reilly submitted information in partial compliance with Part Y and informed the Agencies that reasons necessitating an excuse continued to be valid, thereby causing it to request further extension of the excuse (relating to the language of the insurance certificates). As of December 31, 2000, no response had been received from the Agencies.

Part Z of the Consent Decree currently requires Reilly to deliver to the United States and State of Minnesota by May 31 of each year, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the requirements established in the Consent Decree. Reilly submitted the required certificate in accordance with Part Z of the Consent Decree.

Reilly has completed a Stipulation and Order to amend Part Z of the Consent Decree. All parties of the Consent Decree have signed the document, and Judge Magnuson signed it on November 5, 1999. Reilly will demonstrate future financial assurance, by May 31 of each year, by certifying that Reilly satisfies the requirements of 40 C.F.R. §264.143(f).

### **3. SCHEDULED CONSENT DECREE ACTIVITIES**

Part P of the Consent Decree addresses the issue of securing access agreements to conduct the various activities contemplated in the CD-RAP. In the past, the City has commenced negotiations with various parties from whom access authorization must be attained based upon the content of Agency correspondence dated May 3, 1989. Said correspondence approved a revision in access agreement language for certain properties owned by the Minneapolis Parks and Recreation Board; however, the Agencies indicated they would review each agreement on a case-by-case basis. Accordingly, individual negotiations will be initiated with each affected property owner whereon the City must perform Consent Decree related activities in 2000 in an effort to secure similar agreements to those which were approved by the Agencies on May 3, 1989. No additional access agreements were made during 2000.

Part Q of the Consent Decree acknowledges the Reilly/City Agreement as Exhibit B to, and an enforceable part of the Consent Decree. Section 2 of the Reilly/City Agreement provides that by September 3, 1990, if necessary to avoid sanitary sewer charges on the discharge from wells W23, the Drift-Platteville Aquifer source control wells and gradient control well, Reilly shall plan, obtain necessary permits for, and construct a treatment facility and piping to allow effluent from the wells to be discharged to a storm sewer. As noted in Section 2 of the 1991 Annual Progress Report, a treatment facility was made operational in 1991, treating water discharged from wells W23, and the Drift-Platteville Aquifer source control wells (W420 and W421). To date, no decision has been made on the disposition of the discharge from Drift-Platteville Aquifer gradient control wells (W434 and W439), or the St. Peter Aquifer gradient control well (W410).

Section 9 of the Reilly/City Agreement provides for the payment by one party of costs incurred by the other party or the sharing by the parties thereto of costs incurred by one party in the implementation of the CD-RAP. Within 30 days of the close of the calendar quarter, in which the costs were incurred, the party incurring the costs shall issue a detailed statement of costs, including supporting documentation, and within 30 days of receipt of such notice, the owing party shall pay to the other its share of the costs. It is anticipated the parties will respond to said submittals in accordance with the provisions of the Reilly/City Agreement, or any other agreement between the City and Reilly.

Part T of the Consent Decree addresses compliance with all applicable local, state, and federal laws and regulations when implementing the Consent Decree. Among its provisions is the



requirement that the USEPA and MPCA approve any facility used for off-site disposal of hazardous substances generated during work undertaken pursuant to the Consent Decree. If either Reilly or the City propose to use a facility in 2001, the Agencies must confirm the status of the facility before the shipment of hazardous wastes commences.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Appropriate documentation is due in 2001.

Part Z of the Consent Decree currently requires Reilly to deliver to the United States and State of Minnesota by May 31, 2000, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the new requirements set forth in the recently amended Consent Decree

## **4. COMPLETED REMEDIAL ACTION PLAN ACTIVITIES**

Progress continued in the implementation of the CD-RAP during 2000. Operation of source and gradient control wells occurred throughout the year, impacting flows in the Prairie du Chien-Jordan Aquifer (W23, SLP4 and SLP10/15), St. Peter Aquifer (W410) and the Drift-Platteville Aquifer (W420, W421, W422, W434, and W439). In addition, monitoring of the Mt. Simon-Hinckley, Prairie du Chien-Jordan, St. Peter, and Drift-Platteville Aquifers was completed. Table 4-1 summarizes the progress made in completing the many activities contemplated in the CD-RAP. Further details on the various CD-RAP activities are provided below.

### **4.1 CD-RAP Section 3**

Section 3.3 of the CD-RAP requires Reilly to submit annual Sampling Plans to the USEPA and MPCA by October 31 of that year for the following year. Section 2(a) of the Reilly/City Agreement provides that the City assume all of Reilly's obligations under Section 3 of the CD-RAP. On October 31, 2000, the City submitted the 2001 Sampling Plan. A response has not been received from the Agencies regarding the 2001 Sampling Plan.

Section 3.4 of the CD-RAP requires Reilly to submit an Annual Monitoring Report to the USEPA and MPCA containing the results of all monitoring during the previous calendar year. The City submitted the 1999 Annual Report on behalf of Reilly on March 15, 2000. No response has been received from the Agencies regarding the 2001 Annual Monitoring Report.

### **4.2 CD-RAP Section 4**

The City operated the granular activated carbon (GAC) treatment system for municipal wells SLP10/15 in substantial compliance with Section 4.2 of the Remedial Action Plan (RAP) during 2000. A summary of the 2000 monthly pumping data is presented on Table 4-2.

Municipal wells SLP10/15 pumped without incident during 2000 except during the month of January. SLP 10/15 was shut down in January to complete repairs of the system. The wells are required to pump at a minimum of a total of 10 million gallons per month. SLP10/15 pumped a total of 277.2 million gallons for 2000 or approximately 170% of the CD-RAP required minimum annual pumping rate of 200 million gallons per year.

**TABLE 4-1**
**Status of Remedial Action Plan Activities - 2000**

<b>RAP Section</b>	<b>Item</b>	<b>Activities</b>
3.2./3.3	2000 Annual Sampling Plan	On November 1, 1999 the City submitted the 2000 Sampling Plan. An Agency January 27, 2000 email indicated the plan is generally acceptable.
3.2./3.3	2001 Annual Sampling Plan	Plan submitted by the City on October 31, 2000. Agency approval pending.
3.4	2000 Annual Monitoring Report	Report submitted by the City on March 15, 2000. Agency approval pending.
4.2	Operation of SLP10/15 and GAC System Operation	The City operated the GAC system in compliance with the CD-RAP. Wells pumped the required monthly and yearly volumes except in January. SLP 10/15 was inactivated in January during repairs.
4.3	GAC System Monitoring	Samples were collected as outlined in the Sampling Plan.
4.3.5	2000 GAC Annual Report	Report submitted by the City on March 15, 2000.
5.1	Mt.-Simon Hinckley Monitoring	Completed as outlined in the Sampling Plan.
6.1.4	W105 Monitoring	Samples were collected in 2000. Well is sampled even-numbered years (i.e. 2000, 2002).
7.1.3	Operation of W23	Well W23 was operated in compliance with the CD-RAP.
7.2.7	Operation of SLP4	Operated well SLP4 within the requirements of the RAP.
7.3	Prairie du Chien-Jordan Aquifer Monitoring	Completed as outlined in the Sampling Plan.
7.4.2	Gradient control system modifications in the Prairie du Chien-Jordan Aquifer	The Agencies requested a Focused Feasibility Study to evaluate modifications, in a November 2, 1999, letter. The Focused Feasibility Study was completed and submitted on-schedule on February 14, 2000. The Agencies April 19, 2000 letter approved with modification

**TABLE 4-1**
**Status of Remedial Action Plan Activities - 2000**

<b>RAP Section</b>	<b>Item</b>	<b>Activities</b>
		the FFS. On June 5, 2000 the City submitted the Sentry Well Design Work Plan. In a letter dated July 6, 2000 the Sentry Well Design Work Plan was approved by the Agencies with modifications. In a letter dated October 19, 2000 the Agencies summarized the issues for the gradient control modifications for the PCJ Aquifer. In a letter dated January 25, 2001 the Agencies submitted an addendum to their October 19, 2000 letter. The October 19, letter included the authorization for the City to delay installation of W413 until the results of groundwater modeling for pumping at the Meadowbrook Golf Course well are interpreted.
8.1.3	St. Peter Aquifer monitoring	Completed as outlined in Sampling Plan.
8.3	Operation of W410	Well W410 was operated in substantial compliance with the CD-RAP.
9.1.3	Operation/monitoring of Drift-Platteville Aquifer source control wells, W420 and W421	Pumping during 2000 occurred without incident for both wells except W420 was down in February while a meter was repaired. Quarterly monitoring completed.
9.2.3	Operation/monitoring of Drift-Platteville Aquifer gradient control well W422	Well W422 was operated in substantial compliance with the CD-RAP. Quarterly monitoring completed. The City submitted a letter to the Agencies dated September 28, 1999 proposing cessation criteria for W422 and W434. In an Agencies letter dated December 6, 2000 the Agencies requested additional information which included cessation concentrations, complying with the gradient control objective, assessment of contaminant spreading and criteria to resume gradient control. In a letter dated April 21, 2000 the City provided the Agencies with the requested additional information. An Agencies letter dated October 3, 2000 included the approval for cessation of W422 but not the cessation of W434.

**TABLE 4-1**
**Status of Remedial Action Plan Activities - 2000**

<b>RAP Section</b>	<b>Item</b>	<b>Activities</b>
		Pumping of W422 was discontinued in October 2000.
9.3.3	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan.
9.5.1	Operation of W439	Well W439 was operated in substantial compliance with the CD-RAP. Quarterly monitoring completed.
9.6	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan.
9.7.2	Platteville Aquifer Gradient control Well W434	Pumping during 2000 occurred without incident. Quarterly monitoring completed. The City requested pumping cessation of W434 along with W422. The Agencies approved cessation of W422 but not cessation of W434. See 9.2.3 above. The Agencies indicated that W434 must pump for a minimum of five years.
11.5.1	Development of the site	No on-site activity occurred in 2000. The City began preliminary planning exercises to improve site cover and upgrade on-site park facilities (e.g., the addition of lights for the soccer fields).
12.1.1	Exceedance of advisory levels	In a letter dated July 14, 2000, the City informed the Agencies that the analytical results from SLP6 (217 ppt) exceeded the Drinking Water Criteria. The City indicated that Well SLP6 was an inactive municipal well, and no further sampling was required.

TABLE 4-2

## SLP 10/15 2000 Pumping Data

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January <sup>1</sup>	-	0.0
February	15,672,000	375.3
March	20,398,000	456.9
April	23,404,000	541.8
May	26,995,000	604.7
June	27,781,000	643.1
July	33,236,000	744.5
August	36,406,000	815.5
September	21,100,000	488.4
October	51,539,000	1154.5
November	10,400,000	240.7
December	10,293,000	230.6
<b>TOTAL</b>	<b>277,224,000</b>	<b>524.7</b>

<sup>1</sup> Well was down for repairs

Insofar as Section 4.3.5 of the CD-RAP requires that an annual report of the results of all GAC system monitoring completed in 2000 be reported by March 15, 2001, the City will forward a copy of said report to the USEPA, MPCA, MDH, and Reilly under separate cover by the required date.

#### **4.3 CD-RAP Section 5**

Section 5.1 of the CD-RAP requires Reilly to monitor the City's Mt. Simon-Hinckley Aquifer wells on an annual basis. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City completed the Mt. Simon-Hinckley Aquifer monitoring in compliance with Section 5.1 of the CD-RAP, and the results have been presented in an annual report issued in accordance with Section 3.4 of the CD-RAP.

#### **4.4 CD-RAP Section 6**

Section 6.1.3 of the CD-RAP requires Reilly to pump well W105 at a monthly average rate of 25 gallons per minute (gpm) until such time as the well's discharge is in compliance with cessation criteria contained in Section 6.1.5. On December 4, 1991, the Agencies authorized the City to discontinue the pumping of well W105, and on December 13, 1991, the well was shut down.

Section 6.1.4 of the CD-RAP requires Reilly to monitor well W105 on an every other year basis (i.e. even numbered years). Section 2(a) of the Reilly/Tar Agreement provides that the City complete this task on behalf of Reilly. The City completed the monitoring in accordance with Section 6.1.4 of the CD-RAP in 2000, and will do so again in 2002.

#### **4.5 CD-RAP Section 7**

Section 7.1.3 of the CD-RAP requires Reilly to pump W23 at a monthly average rate of 50 gpm. Section 2(a) of the Reilly/City Agreement provides that the City operate W23 beginning the day pumping is started. A summary of the 2000 monthly pumping data is presented on Table 4-3. The monthly average flow rate ranged from 46.3 gpm to 51.5 gpm with a monthly average of 50 gpm.

Section 7.2.7 of the CD-RAP requires Reilly to pump SLP4 at its capacity (900 gpm or as near as practicable) during the months of January through April and October through December and 300 gpm from May through September during each calendar year. Section 2(a) of the Reilly/City Agreement provides that the City assume this obligation for Reilly. A summary of the 2000 monthly pumping data is presented on Table 4-4. The City achieved the monthly average pumping rate requirements. The City pumped SLP4 at an average rate of 912 gpm during the

**TABLE 4-3****W23 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	2,064,890	46.3
February	2,086,210	50.0
March	2,199,370	49.3
April	2,194,830	50.8
May	2,230,590	50.0
June	2,062,000	47.7
July	2,296,800	51.5
August	2,300,010	51.5
September	2,210,170	51.2
October	2,281,390	51.1
November	2,216,090	51.3
December	2,197,660	49.2
<b>TOTAL</b>	<b>26,340,010</b>	<b>50.0</b>



**TABLE 4-4****SLP4 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	45,176,000	1012.0
February	41,731,000	999.3
March	44,325,000	992.9
April	42,732,000	989.2
May	42,344,000	948.6
June	42,832,000	991.5
July	42,911,000	961.3
August	43,741,000	979.9
September	17,217,000	398.5
October	19,846,000	444.6
November	41,396,000	958.2
December	44,265,000	991.6
<b>TOTAL</b>	<b>468,516,000</b>	<b>889.0</b>

months of January through April and October through December and 856 gpm from May through September.

Section 7.3 of the CD-RAP requires Reilly to monitor the Prairie du Chien-Jordan Aquifer as specified in Section 3 of the CD-RAP. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. The City in compliance with Sections 3 and 7.3 of the CD-RAP completed monitoring of the aquifer, and information relative to the monitoring can be found in the 2000 Annual Report submitted pursuant to Section 3.4 of the CD-RAP.

Section 7.4.2 of the CD-RAP authorizes the Agencies to assess the effect of the diminution of the pump stress placed on the Prairie du Chien-Jordan Aquifer (PCJ Aquifer) if the pumping rate of W48 is changed.

In 1995, ENSR submitted a plan for gradient control system modification for the PCJ Aquifer, which was approved by the Agencies on October 27, 1995. This approval letter indicated that a mutually acceptable modeling tool developed by Hennepin County Conservation District would be used to further evaluate groundwater flow in the PCJ Aquifer. Based upon the results from the modeling work, the Agencies indicated in a May 4, 1998, letter the need for additional capture in the PCJ Aquifer southeast of the Reilly Site. In the May 4, 1998, letter, the Agencies requested that a feasibility study be completed.

In a May 19, 1998, letter from the City to the Agencies, the City indicated that they would complete the feasibility study within a 90-day time frame. However, to effectively evaluate the three scenarios, an agreement on alternate water quality criteria in the PCJ Aquifer should be made. In an Agency letter dated November 23, 1998, the City was authorized to postpone initiating the FFS until the water quality criteria were revised.

On February 19, 1999, during a project status meeting, the City informed the MPCA they are no longer requesting revisions to the CD-RAP water quality compliance criteria for the drinking water aquifers and accordingly the revision of water quality criteria is no longer postponing preparing the FFS. In a letter dated November 2, 1999, the Agencies requested that the City prepare the FFS within 90 days (February 14, 2000). The FFS was submitted by the City on February 14, 2000.

In correspondence dated March 14, 2000 the Agencies requested a 30-day extension to respond to the FFS and requested some supplemental information to aid in their review of the FFS. The City provided the Agencies with the requested supplemental information in a letter

dated March 27, 2000.

The Agencies April 19, 2000 letter approved with modification the FFS and supplemental information contingent upon obtaining the permits necessary for discharge to surface water. The selected remedy included installation of a new sentry well (W413) near the Edina border, and quarterly sampling of the new sentry well and the two existing sentry wells (W119 and SLP6). If drinking water concentrations are exceeded in the sentry wells, the remedy includes pumping SLP6 to provide additional gradient control in the Prairie du Chien – Jordan Aquifer.

The Agencies requested submittal of a design report to specify the monitoring program and action criteria for the sentry wells, and detail the schedule for implementing pumping at SLP6 with discharge to Minnehaha Creek. A modification to the City's NPDES permit was required for this discharge option.

On June 5, 2000 the City submitted a Sentry Well Design Work Plan, as requested by the Agencies. In a letter dated July 6, 2000 the Sentry Well Design Work Plan was approved by the Agencies with modifications. The modifications included review of the City's proposed sentry well construction details, monitoring program and action criteria for implementing pumping at SLP6. The Agencies requested that the new sentry well be installed similar to the construction of wells W402 and W403. The Agencies suggested that the sentry well be installed approximately five feet into the Jordan Sandstone as opposed to penetrating the entire formation.

The City and the MPCA held a meeting on August 3, 2000 to discuss the NPDES permit application. The City has submitted the requested documentation to the MPCA and a Draft NPDES Permit (MN0045489) was put on Public Notice on October 18, 2000. The final NPDES permit was issued by MPCA on November 27, 2000.

In the Agencies' letter dated October 19, 2000 to the City and Reilly, the Agencies indicated that groundwater flow monitoring is being conducted to determine the influence that W119 may have if used as an irrigation well for the golf course. Once the modeling is completed, the schedule for installing well W413 will begin.

#### **4.6 CD-RAP Section 8**

Section 8.3 of the CD-RAP authorizes the USEPA and MPCA to require Reilly to install and operate a gradient control well system for the purpose of preventing the further spread of

groundwater exceeding any of the Drinking Water Criteria defined in CD-RAP Section 2.2 in the St. Peter Aquifer. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly.

In response to April 1, 1991, correspondence from the Agencies on the issue, the City placed W410 in service on May 30, 1991. A summary of the 2000 pumping data is presented in Table 4-5.

Table 4-5 indicates well W410 was pumped in substantial compliance with the CD-RAP, and the yearly average pumping rate for well W410 was approximately 80 gpm.

Monitoring of St. Peter Aquifer monitor wells occurred in accordance with the provisions of the 2000 Sampling Plan. These data and a report on the effectiveness of well W410 as a gradient control well can be found in the 2000 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

#### **4.7 CD-RAP Section 9**

Section 9.1.3 of the CD-RAP requires Reilly to operate the Drift-Platteville Aquifer source control wells at a monthly rate of 25 gpm and monitor them on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City operate the wells beginning the day pumping is started and monitor them as required. Accordingly, the City has operated the wells and has performed necessary periodic inspections as outlined in a plan approved under Section 9.1.1 of the CD-RAP.

Since 1989, the pumping rates at wells W420 and W421 were increased to the maximum extent practicable to achieve the greatest degree of source control. A summary of the 2000 monthly pumping data for wells W420 and W421 are presented in Tables 4-6 and 4-7, respectively. Wells W420 and W421 both maintained average monthly pumping rates of 27.6 gpm for 2000. Pumping occurred without incident in 2000 for both wells except W420 was down in February while a meter was repaired.

Monitoring of the Drift-Platteville Aquifer source control wells occurred on a quarterly basis pursuant to the requirements of Sections 3.2 and 9.1.3 of the CD-RAP. A report of the results can be found in the 2000 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

Section 9.2.3 of the CD-RAP requires Reilly to operate the Drift Aquifer gradient control well

**TABLE 4-5****W410 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	2,941,330	65.9
February	2,704,740	64.8
March	1,586,060	35.5
April	3,790,050	87.7
May	4,208,060	94.3
June	4,281,500	99.1
July	3,922,920	87.9
August	3,856,360	86.4
September	3,694,810	85.5
October	3,752,410	84.1
November	3,676,400	85.1
December	3,663,170	82.1
<b>TOTAL</b>	<b>42,077,810</b>	<b>79.9</b>

**TABLE 4-6****W420 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	1,580,090	35.4
<sup>1</sup> February	119,820	2.9
March	1,231,470	27.6
April	1,194,950	27.7
May	1,204,690	27.0
June	1,557,370	36.1
July	1,652,650	37.0
August	1,482,420	33.2
September	1,197,830	27.7
October	1,202,520	26.9
November	1,063,840	24.6
December	1,132,310	25.4
<b>TOTAL</b>	<b>14,619,960</b>	<b>27.6</b>

<sup>1</sup> Well was shut down while meter was repaired

TABLE 4-7

## W421 2000 Pumping Data

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	1,271,710	28.5
February	1,178,240	28.2
March	1,278,360	28.6
April	1,245,350	28.8
May	1,227,500	27.5
June	1,178,540	27.3
July	1,222,520	27.4
August	1,228,430	27.5
September	1,192,980	27.6
October	1,201,190	26.9
November	1,136,490	26.3
December	1,157,420	25.9
<b>TOTAL</b>	<b>14,518,730</b>	<b>27.6</b>

(W422) at a monthly rate of 50 gpm and monitor the well on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City operate the well beginning the day pumping is started and monitor it as required. Accordingly, the City has operated the well and has performed necessary periodic inspections as outlined in a plan approved under Section 9.2.1 of the CD-RAP.

A summary of the 2000 pumping data for the Drift Aquifer gradient control well is presented in Table 4-8. Prior to October, the City maintained a monthly average pumping rate of 50.7 gpm for well W422. Based on correspondence and information discussed with the City, Reilly, and the Agencies for the past several years, the Agencies approved cessation of pumping at well W422 on October 3, 2000.

Monitoring of the Drift Aquifer Gradient Control well occurred on a quarterly basis pursuant to the requirements of Sections 3.3 and 9.2.3 of the CD-RAP. A report of the results can be found in the 2000 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

In accordance with CD-RAP, Sections 9.2.3 and 9.5.1, the City began pumping well W439 (the Northern Area Drift Aquifer Gradient Control well) at 50 gpm in January 1996. A summary of the 2000 pumping data of the Northern Area Drift Aquifer Gradient Control well is presented in Table 4-9. Well W439 pumped at a monthly average rate of 50.4 gpm.

Monitoring of the Northern Area Drift Aquifer Gradient Control well occurred on a quarterly basis pursuant to the requirements of Sections 3.2 and 9.2.3 of the CD-RAP. A report of the results can be found in the 2000 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

In accordance with CD-RAP, Section 9.7.2, the City began pumping well W434 on June 10, 1997. Monitoring of well W434 was completed in accordance with the 2000 Sampling Plan. The City maintained a monthly average pumping rate of 29.6 for well W434. A summary of 2000 pumping data at well W434 (Platteville Aquifer Gradient Control Well) is presented in Table 4-10.

#### **4.8 CD-RAP Section 10**

Section 10.1.1 and 10.2.1 of the CD-RAP requires Reilly to submit to the USEPA, MPCA and MDH a plan for investigating certain multi-aquifer wells that may be adversely affecting the Mt. Simon-Hinckley, Ironton-Galesville, Prairie du Chien-Jordan and St. Peter Aquifers.

On July 6, 1995, the MPCA issued a letter to the City and Reilly, regarding review of the report for Leaking Deep Multi-Aquifer Wells and St. Peter Aquifer Multi-Aquifer Wells. In these reports, the



**TABLE 4-8****W422 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	2,559,310	57.3
February	2,239,690	53.6
March	1,152,260	25.8
April	3,081,000	71.3
May	3,172,920	71.1
June	3,217,490	74.5
July	3,376,350	75.6
August	3,376,390	75.6
September	3,305,140	76.5
<sup>1</sup> October	1,184,570	26.5
November	-	0.0
December		0.0
<b>TOTAL</b>	<b>26,665,120</b>	<b>50.7</b>

<sup>1</sup> Well was inactivated in October in Accordance with the Agencies October 2000 Letter

**TABLE 4-9****W439 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	2,410,610	54.0
February	1,663,810	39.8
<sup>1</sup> March	1,035,960	23.2
April	2,398,090	55.5
May	2,446,280	54.8
June	2,292,320	53.1
July	2,375,120	53.2
August	2,427,380	54.4
September	2,375,000	55.0
October	2,360,340	52.9
November	2,343,700	54.3
December	2,416,230	54.1
<b>TOTAL</b>	<b>26,544,840</b>	<b>50.4</b>

<sup>1</sup> Well was down while pump was repaired

**TABLE 4-10****W434 2000 Pumping Data**

<b>Month</b>	<b>Total Gallons Pumped</b>	<b>Monthly Average Flow Rate Gallons Per Minute</b>
January	1,387,640	31.1
February	1,204,770	28.8
March	1,540,020	34.5
April	1,364,900	31.6
May	1,342,490	30.1
June	1,340,230	31.0
July	1,177,870	26.4
August	1,307,930	29.3
September	1,304,100	30.2
October	1,230,210	27.6
November	1,202,600	27.8
December	1,207,260	27.0
<b>TOTAL</b>	<b>15,610,020</b>	<b>29.6</b>

City stated that no further St. Peter and Deep Multi-Aquifer wells are believed to exist in the study area that require abandonment. The Agencies' July 6, 1995, letter approved both of these reports. No further work is required at this time.

#### **4.9 CD-RAP Section 11**

Section 11.5.1 of the CD-RAP requires the City to prepare a plan, which addresses, among other things, actions to place an adequate soil and vegetative cover as needed to prevent soil erosion on city parks on the Site. The City performed routine maintenance in 2000.

#### **4.10 CD-RAP Section 12**

The Utility Superintendent has the responsibility to review all data upon receipt from laboratory and notify the Project Leader and Agencies of all exceedances of the Drinking Water Criteria in any municipal well, as outlined in Section 12.1.1 of the CD-RAP. In a letter dated July 14, 2000, the City informed the Agencies that the analytical results from SLP6 have exceeded the Drinking Water Criteria. A level of 217 ppt total other PAHs was reported. The City indicated they would inactivate SLP6 in lieu of contingent sampling. Well SLP6 will remain on inactive status indefinitely.

## 5. SCHEDULED REMEDIAL ACTION PLAN ACTIVITIES

Table 5-1 summarizes the expected schedule for CD-RAP activities during 2001. Many of the schedule dates cannot be established definitely because they depend on Agency review, inspection, and approval. Groundwater monitoring is an essential ongoing task.

**TABLE 5-1**

### Expected Remedial Action Plan Activities - 2001

<b>RAP Section</b>	<b>Item</b>	<b>Expected Timetable</b>
3.3	Sampling Plan for 2001	Agency approval due
3.3	Sampling Plan for 2002	City to submit plan October 31, 2001
3.4	2000 Annual Monitoring Report	City to submit report March 15, 2001
4.2	Operation and Maintenance of the GAC System at Wells SLP10 and 15	Ongoing
4.3	GAC Plant Monitoring	Continued monitoring in accordance with the RAP
4.3.5	2000 GAC Annual Report	City to submit report March 15, 2001
5.1	Mt. Simon-Hinckley Aquifer Monitoring	Refer to 2000 Sampling Plan
6.1.4	W105 Monitoring	Will be sampled in 2002 and every even numbered year
7.1.3	Operation of W23	Ongoing
7.2.7	SLP4 Operation	Ongoing
7.3	Prairie du Chien-Jordan Aquifer Monitoring	Refer to the Agencies January 25, 2001 letter.
7.4.2	Feasibility study on gradient control modification in the PCJ Aquifer. Remedy selection and implementation.	A Focused Feasibility Study was submitted to the Agencies on February 14, 2000. In a Agencies letter dated January 25, 2001 the City was authorized to delay installing W413 until the groundwater modeling is complete and the results of potential pumping from the Meadowbrook Golf course well are evaluated. In addition the Agencies indicated that sentry well sampling should begin in the spring 2001.
8.1.3	St. Peter Aquifer Monitoring	Refer to 2000 Sampling Plan

**TABLE 5-1**
**Expected Remedial Action Plan Activities - 2001**

<b>RAP Section</b>	<b>Item</b>	<b>Expected Timetable</b>
8.3	St. Peter Aquifer Remedial Action Gradient Control Well Operation - W410	Ongoing
9.1.3	Operation and monitoring Drift-Platteville Aquifer Source Control Wells, W420 and W421	Refer to 2000 Sampling Plan
9.2.3	Operation and monitoring Drift-Platteville Aquifer Gradient Control Well W422	This well is no longer required to be pumped. Monitoring will be conducted in accordance with the 2000 Sampling Plan.
9.3.3	Drift-Platteville Aquifer Monitoring	Refer to 2000 Sampling Plan
9.5.1	Operation and monitoring of Drift Aquifer Gradient Control Well - W439	Ongoing
9.6	Drift-Platteville Aquifer Monitoring	Refer to 2000 Sampling Plan
9.7.2	Operation and monitoring Platteville Aquifer Gradient Control Well -W434	Ongoing
11.5	Development Plan and Site Maintenance	Ongoing
12.1	Contingent Monitoring	Ongoing, if necessary